


## Galaxies & the Milky Way - Study Guide


1 - What is a galaxy? LARGE GROUP OF STARS & DUST HELD TOGETHER BY GRAVITY  
TYPICALLY BELIEVED TO HAVE A MASSIVE BLACK HOLE IN THE CENTER

2 - What is the name of our galaxy & how many stars does it contain? MILKY WAY - 400 BILLION

3 - Name & describe the 3 types of galaxies. Give an example of each type (shape &/or Draw).

(BLURRED) SPIRAL -  - ARMS COMING OUT OF CENTER

ELLIPTICAL -  - FOOTBALL SHAPED

IRREGULAR -  - EVERYTHING ELSE

4 - How do the planets orbit the sun? ELLIPSE (NOT A CIRCLE)

5 - Explain how galaxies form & what evidence supports this idea.

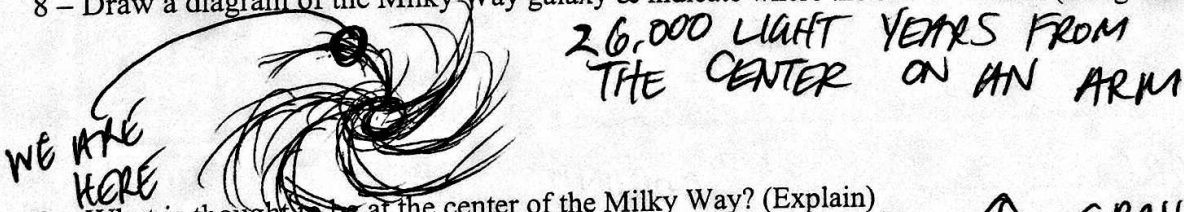
BIG BANG - LARGE EXPLOSION AND RAPID  
EXPANSION OF UNIVERSE SUPPORTED BY 1) RED SHIFT  
2) FUSION AND 3) BACKGROUND RADIATION

6 - How long does it take the sun to revolve around the center of the Milky Way? 225 MILLION YEARS

7 - How fast is the sun traveling? 225 km/s Now, convert this into mph. (1 mile = 1.6 km)

$$\frac{225 \text{ km}}{\text{s}} \left( \frac{1 \text{ mi}}{1.6 \text{ km}} \right) = \left( \frac{3600 \text{ s}}{1 \text{ hr}} \right) = 506,250 \text{ mph}$$

8 - Draw a diagram of the Milky Way galaxy & indicate where the sun is located. (Rough sketch)



9 - What is thought to be at the center of the Milky Way? (Explain)

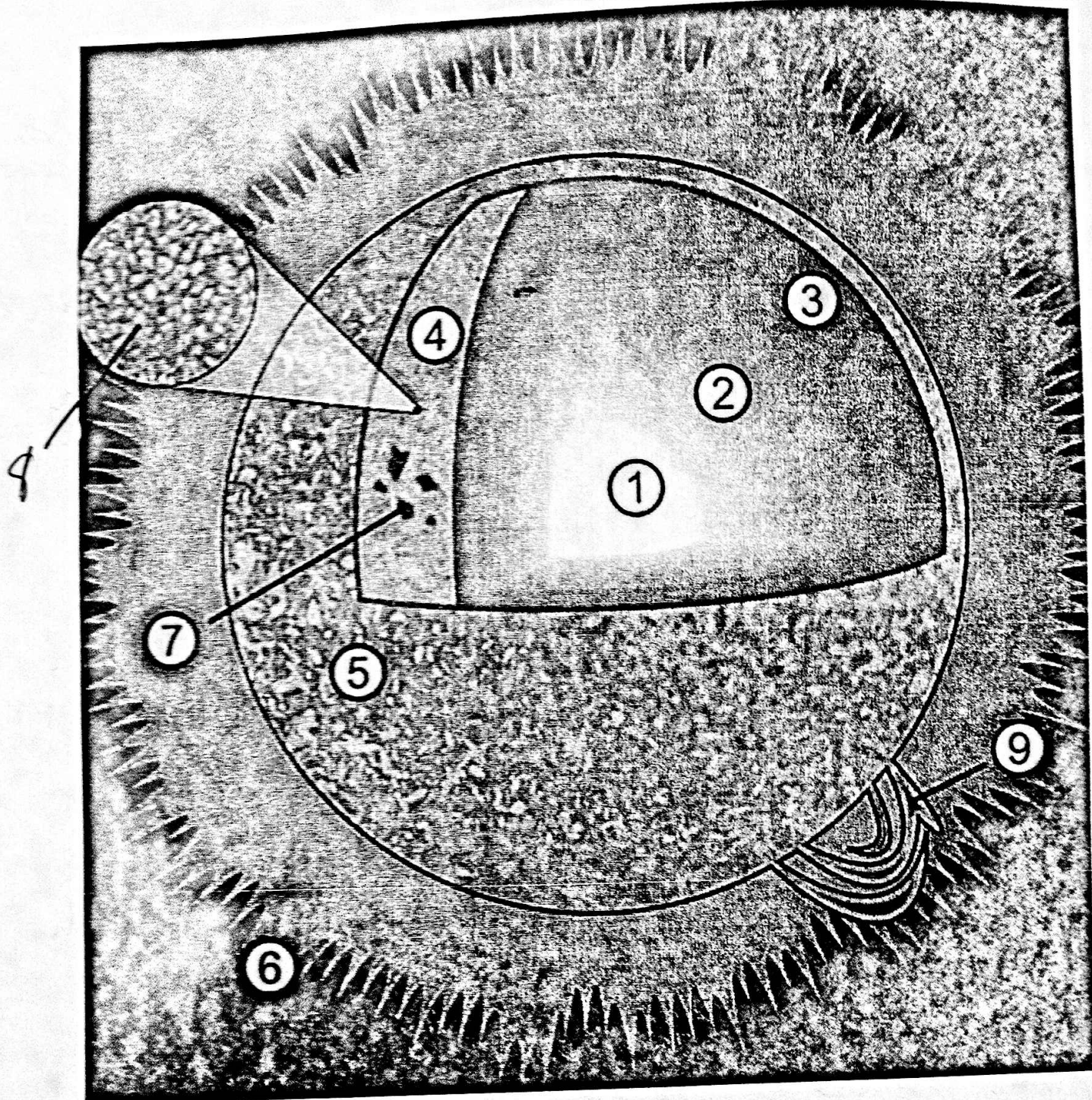
A MASSIVE BLACK HOLE - NEED ↑ GRAVITY  
TO HOLD/CONTROL THE GALAXY'S ORDER & MOTION

10. What is the event horizon and what goes on there/ what do we think goes on there?

THE POINT/LINE WHERE OBJECTS GET SUCKED

IN BY BLACK HOLES, NO POINT  
OF NO RETURN!





1. CORE
2. RADIATION ZONE
3. CONVECTION ZONE
4. PHOTOSPHERE
5. CHROMOSPHERE

6. CORONA
7. SUNSPOT
9. PROMINENCES